

## **Unit 2 In Class Assignment**

**Due: October 23, 2016**

1. What is the domain and range of the reciprocal function of  $f(x)=5x+1$
2. Identify the holes in the graph  $g(x) = \frac{x+7}{7x+49}$
3. Identify the vertical and horizontal asymptotes of  $h(x) = \frac{x-4}{2x+1}$
4. Find the x and y-intercepts of  $m(x) = \frac{18}{3x+2}$
5. Find any vertical asymptotes of  $n(x) = \frac{x^2 - 25}{x^2 + 4x - 5}$
6. Solve  $\frac{x-4}{x+5} = \frac{-3x+5}{x-2}$
7. Solve  $\frac{x+4}{x-3} \geq \frac{2x+5}{x-2}$
8. Graph  $n(x) = \frac{x^2 - 25}{x^2 + 4x - 5}$
9. Write a rational equation that cannot have 3 or -5 as solutions
10. Solve  $3x^4 - 5x^2 - 90 \geq 2x^4 + x^3 + 30x^2 - 57x - 180$

# Evaluation Rubric

Criteria	R Insufficient	Level 1 Limited	Level 2 Approaching	Level 3 Sufficient	Level 4 Thorough Sophisticated
<b>Knowledge and Understanding</b>					
<b>Understanding of content and concepts</b>	<b>Insufficient understanding</b> of content and concepts.	<b>Simplistic understanding</b> of content and concepts. Many conceptual gaps or errors.	<b>Basic understanding</b> of content and concepts. Some conceptual gaps or errors	<b>Sufficient understanding</b> of content and concepts. Rare conceptual gaps or errors.	<b>Insightful understanding</b> of content and concepts. No significant conceptual errors
<b>Procedural accuracy</b>		Mathematics contains <b>many</b> procedural <b>errors</b>	Execution of mathematics contains <b>some</b> procedural <b>errors</b> .	Mathematics may contain a <b>few</b> procedural <b>errors</b>	Mathematics may contain <b>insignificant</b> or rare procedural <b>errors</b>
<b>Communication</b>					
<b>Expression and organization of ideas and mathematical thinking</b>	Solution <b>unorganized</b> .  <b>Insufficient</b> use of correct mathematical vocabulary, symbols, labels, and conventions.	<b>Organization</b> of mathematics <b>poor</b> .  Uses <b>common language</b> in place of mathematical vocabulary. Sometimes uses symbols, labels, and conventions correctly.	<b>Organization</b> of mathematics <b>satisfactory</b> .  <b>Few errors</b> in vocabulary and only some common language in place of mathematical vocabulary. Usually uses mathematical symbols, labels, and conventions correctly.	<b>Organization</b> of mathematics <b>easy to follow</b> .  <b>Appropriate</b> use of mathematical <b>vocabulary</b> . Consistently uses mathematical symbol, labels, and conventions correctly.	<b>Organization</b> of mathematics <b>clear and easy to follow</b> .  <b>Clear and precise</b> language. Insightful use of symbols and mathematical vocabulary.
<b>Application</b>					
<b>Transfer of mathematical ideas to situations drawn from other contexts</b>	<b>Insufficient transfer</b> of ideas to other contexts.	<b>Simplistic transfer</b> of ideas drawn from familiar contexts.	<b>Basic transfer</b> of ideas drawn from <b>familiar contexts</b> .	<b>Solid transfer of ideas</b> drawn from <b>new contexts</b> .	Transfers ideas to other contexts and makes <b>unique, original, or insightful</b> connections.
<b>Selection and use of tools and strategies to solve a problem</b>	<b>Incorrect selection</b> of tools	<b>Selection</b> of appropriate tools is <b>limited</b> , with major errors, omissions or mis-sequencing.	Selects <b>some appropriate tools</b> and strategies with minor errors, omissions or mis-sequencing.	Selects <b>appropriate tools</b> and strategies accurately and in logical sequence.	Selects the <b>most appropriate tools</b> accurately and efficiently. Creates <b>elegant solutions</b> , uses multiple strategies.
<b>Connections between representations</b>	<b>Insufficient connections</b> made between different representations.	Makes <b>few simple connections</b> . Limited use of multiple representations.	Makes <b>few basic connections</b> . Basic use of multiple representations Misinterprets part(s) of the information	Makes <b>solid connections</b> . Appropriate use of <b>multiple representations</b> .	Makes <b>strong connections between representations</b> . Insightful use of multiple representations as appropriate to the problem.
<b>Reasoning with justification.</b>	<b>Insufficient evidence</b> of reasoning.	<b>Simplistic reasoning</b> with weak justification and possible <b>generalizations</b> .	<b>Basic evidence of reasoning</b> with <b>minor errors in justification</b> and possible <b>generalizations</b>	<b>Reasoning of familiar situations</b> with justification and <b>some generalizations</b> .	<b>Sophisticated</b> mathematical reasoning with <b>strong justification and generalizations</b>